

## CLAIMS

What is claimed is:

1           1.     A packaged resistor comprising:  
2           a substrate;  
3           a shaped thin film over the substrate;  
4           a first insulating layer over the thin film and substrate, covering the  
5   entire substrate;  
6           posts on the first insulating layer, positioned at a first end and a second  
7   end of the shaped thin film;  
8           a conductive layer over the posts, covering tops of the posts, the  
9   conductive layer in contact with the shaped thin film; and  
10          the conductive layer on the tops of the posts for coupling the packaged  
11   resistor to another device.

1           2.     The packaged resistor of claim 1, further comprising:  
2           a second insulating layer over the posts and conductive layer, the  
3   second insulating layer leaving exposed the conductive layer on the tops of  
4   the posts.

1           3.     The packaged resistor of claim 1, further comprising:  
2           a third insulating layer on the substrate and underneath the thin film.

1           4.     The packaged resistor of claim 1, further comprising:  
2           a protective layer on the conductive layer exposed on the tops of the  
3   posts.

1           5.     The packaged resistor of claim 1, wherein the thin film is a  
2 material selected from among: tantalum nitride, nichrome, or tin oxide.

1           6.     The packaged resistor of claim 1, wherein the thin film is  
2 deposited in a rectangular pattern, and acts as a resistive material.

1           7.     The packaged resistor of claim 1, wherein the first insulating  
2 layer is a polyimide layer which provides compliancy to the packaged resistor.

1           8.     The packaged resistor of claim 1, wherein the posts are made of  
2 one or more of the materials including: silicon, gallium arsenide, silicon  
3 germanium, silicon carbide, gallium phosphide, ceramic materials, sapphire,  
4 quartz, polymer plastic, patterned plastic, epoxy, glass, Teflon, silicon dioxide,  
5 or polysilicon.

1           9.     The packaged resistor of claim 1, wherein the conductive layer is  
2 gold.

1           10.    The packaged resistor of claim 2, wherein the second insulating  
2 layer is of polyimide which provides compliancy to the packaged resistor.

1           11.    The packaged resistor of claim 3, wherein the third insulating  
2 layer is of polyimide, which provides compliancy to the packaged resistor.

1           12.    The packaged resistor of claim 4, wherein the protective layer  
2 comprises a first layer of nickel and a second layer of flash gold.

1           13.    An packaged inductor comprising:  
2           a substrate;  
3           a first insulating layer over the substrate;  
4           posts over the insulating layer;  
5           a conductive layer deposited on top of the posts and in a pattern on the  
6 substrate.

1           14.    The packaged inductor of claim 13, further comprising:  
2           a protective layer over the conductive layer, the posts, and the first  
3 insulating layer, the second insulating layer leaving exposed the conductive  
4 layer on the top of the posts.

1           15.    The packaged inductor of claim 13, wherein the first insulating  
2 layer is a polyimide layer which provides compliancy to the packaged  
3 inductor.

1           16.    The packaged inductor of claim 13, wherein the posts are made  
2 of one or more of the materials including:

1           17.    The packaged inductor of claim 13, wherein the conductive layer  
2 is gold.

1           18.    The packaged inductor of claim 14, wherein the second  
2   insulating layer is of polyimide which provides compliancy to the packaged  
3   inductor.

1           19.    The packaged inductor of claim 16, wherein the protective layer  
2   comprises a first layer of nickel and a second layer of flash gold.

1           20.    A packaged capacitor comprising:  
2           a substrate;  
3           a thin film over part of the substrate;  
4           an insulating layer deposited over the entire substrate;  
5           posts on the insulating layer;  
6           a first conductive layer laid over the insulating layer, and extending to  
7   a top of a first post; and  
8           a second conductive layer, in contact with the thin film and extending  
9   to the top of a second post.

1           21.    The packaged capacitor of claim 20, further comprising:  
2           a second insulating layer deposited over the first and second  
3   conductive layers, covering the first and second conductive layers, except at  
4   the top of the first and second post.

1           22.    The packaged capacitor of claim 20, wherein the first conductive  
2   layer is substantially parallel to the thin film, the thin film, the insulating  
3   layer and the first conductive layer together forming the packaged capacitor.

1           23.    The packaged capacitor of claim 20, further comprising:  
2           a third insulating layer on the substrate and underneath the thin film.

1           24.    The packaged capacitor of claim 20, further comprising:  
2           a protective layer on the conductive layer exposed on the tops of the  
3 posts.

1           25.    The packaged capacitor of claim 20, wherein the thin film is  
2 [insert one or more materials].

1           26.    The packaged capacitor of claim 20, wherein the first insulating  
2 layer is a polyimide layer which provides compliancy to the packaged  
3 capacitor.

1           27.    The packaged capacitor of claim 20, wherein the posts are made  
2 of one or more of the materials including: silicon, gallium arsenide, silicon  
3 germanium, silicon carbide, gallium phosphide, ceramic materials, sapphire,  
4 quartz, polymer plastic, patterned plastic, epoxy, glass, Teflon, silicon dioxide,  
5 or polysilicon.

1           28.    The packaged capacitor of claim 20, wherein the conductive layer  
2 is gold.

1           29.    The packaged capacitor of claim 22, wherein the second  
2 insulating layer is of polyimide which provides compliancy to the packaged  
3 capacitor.

1           30.    The packaged capacitor of claim 23, wherein the third insulating  
2 layer is of polyimide, which provides compliancy to the packaged capacitor.

1           31.    The packaged capacitor of claim 24, wherein the protective layer  
2 comprises a first layer of nickel and a second layer of flash gold.

1           32.    A packaged diode comprising:  
2           a substrate;  
3           an impurity implanted in the substrate;  
4           an insulating layer over the substrate;  
5           an anode and a cathode on the insulating layer;  
6           a first conductive layer over the anode, the first conductive layer in  
7 contact with the impurity;  
8           a second conductive layer over the cathode, the second conductive  
9 layer in contact with the substrate.

1           33.    The packaged diode of claim 32, wherein the substrate is an N-  
2 type substrate, and the impurity is a P-type impurity.

1           34.    The packaged diode of claim 32, wherein the substrate is a P-type  
2 substrate, and the impurity is an N-type impurity.

1           35.    The packaged diode of claim 33, wherein the anode and the  
2 cathode are posts.

1           36.    The packaged diode of claim 35, wherein the posts are made of  
2 one of the materials selected from: silicon, gallium arsenide, silicon  
3 germanium, silicon carbide, gallium phosphide, ceramic materials, sapphire,  
4 quartz, polymer plastic, patterned plastic, epoxy, glass, Teflon, silicon dioxide,  
5 or polysilicon.

1           37.    The packaged diode of claim 32, wherein the first and second  
2 conductive layers are gold.

1           38.    The packaged diode of claim 37, further comprising a connective  
2 layer over the first and second conductive layers, the connecting layer  
3 comprising:

4               a nickel layer; and

5               a flash gold layer.

1           39.    The packaged diode of claim 32, further comprising a final  
2 passivation layer, the final passivation layer covering the first conductive  
3 layer and the second conductive layer, the substrate, and the cathode and the  
4 anode, the final passivation layer leaving exposed on the first conductive  
5 layer on top of the anode and the second conductive layer on top of the  
6 cathode.

- 1            40.    The packaged diode of claim 39, wherein the final passivation  
2    layer is polyimide.